
Government of the District of Columbia



DC Department of Public Works

Testimony of
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Director

**Public Oversight Roundtable on the
District Snow Removal Operations Plan**

Committee on Transportation and the Environment

Councilmember Mary M. Cheh, Chairperson

John A. Wilson Building
Room 500
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**TESTIMONY OF CHRISTOPHER J. SHORTER, DIRECTOR
DC DEPARTMENT OF PUBLIC WORKS
ON THE DISTRICT SNOW REMOVAL OPERATIONS PLAN
BEFORE THE
COMMITTEE ON TRANSPORTATION AND THE ENVIRONMENT
OCTOBER 16, 2017/10 AM**

Introduction

Good morning, Chairperson Cheh and members and staff of the Committee on Transportation and the Environment. I am Christopher Shorter, Director of the Department of Public Works (DPW). I appreciate the opportunity to appear before you today to testify on behalf of the DC Snow Team regarding the District's 2018 Winter Maintenance Plan. I am joined today by James Jackson, DPW Deputy Director and Citywide Program Manager for Snow Operations, and Perry Fitzpatrick, Agency Fiscal Officer.

I would like to start by expressing my gratitude to the Mayor and the City Administrator for their vision to strengthen the snow and ice removal program. Thanks to their leadership, the snow budget received the needed increase in funds to stabilize the program to support public health and safety.

Our budget and how we are using these funds are as follows:

- The DPW Snow Program budget increased from **\$4,700,592.72** in FY2017 to **\$8,664,000.33** in FY2018.
- The **\$3,963,407.31** increase will be applied to the following:
 - \$2,510,000 Rental/Leasing of Snow Equipment
 - \$580,000 Salt Purchases
 - \$49,407.31 Miscellaneous increases to the Snow Program
 - \$824,000 Extension of Leaf Drivers

Director Gillis, Acting Director Marootian, and I, along with the staff of the Department of General Services (DGS), Department of Transportation (DDOT), the Department of Public Works (DPW), and other support agencies, used the off-season to build on the advances introduced in the FY 2017 snow season. The Snow Team integrates multiple DC government agencies to share a single purpose: ensuring the District is safe to navigate after the end of a snow storm and resuming normal government service and business in an efficient, environmentally sustainable, and safe manner.

The expanded snow team includes the Homeland Security and Emergency Management Agency, the Metropolitan Police Department (MPD), DC Water, and the Office of the State Superintendent of Education (OSSE) Division of Student Transportation.

Over the next several minutes I will provide updates on several key aspects of the District's snow operations, beginning with a recap of last year's snow season.

FY 2017 Winter Season Recap

While the FY 2016 snow season was characterized by an unprecedented snowstorm, last year's weather was temperate with just one major snow event. We had a total of 11 mobilizations, which allowed our team members to keep their skills honed as we tested the new technologies introduced at the beginning of the season, and practiced new procedures designed to increase our efficiency.

The American Public Works Association recognized the DC Snow Team's success in taming "Snowzilla" in January 2016 by dedicating their October 2017 cover story to our program.¹ The article describes the effort to restore the District after Snowzilla and our planning for the FY 2017 and 2018 snow seasons. As the piece notes, DC's snow program is continuously evaluated throughout the winter so that improvements are implemented in time for the next event. With that sentiment in mind, I will now outline some of the lessons learned as we head into this snow season.

Lessons Learned

During our two-day seminar conducted this summer, we took a more thorough look at the entire program. We reviewed the planning, operational, administrative, and technological aspects of the just-completed snow season and identified areas where adjustments should be made to improve our overall efficiency.

This summer's seminar featured industry experts from Ohio, Colorado, and Illinois. Our team learned from their counterparts who work in well-refined operating systems about what works well and their challenges. We heard about their lessons learned and the strategies used to clear roads of snow and ice.

Based on their collective experience, we identified areas for improvement and set corresponding goals. I am gratified to report that the team responded with a heightened sense of purpose to meet due dates covering issues such as team notification protocols, increased mobility to improve safety team members' effectiveness, and enhanced communications systems to ensure team members are informed.

The Winter Maintenance Plan reflects months of evaluating the previous year's performance, after-action recommendations from community partners, government partners, and the Executive Office of the Mayor. We will use this input to improve our performance during the upcoming snow season.

Now I will provide highlights of the Plan, starting with our operations and deployment.

Snow Operations and Deployment

As you know, the Winter Maintenance Plan divides the District into 14 overall geographical zones with 71 primary and secondary road routes and 82 residential routes for snow and ice removal.

¹ https://issuu.com/apwa/docs/201710_reporteronline

During a snow event, we deploy 6- and 10-wheel dump trucks with plows and salt spreaders along these routes. We call them heavy plows. Our light plows, which are large pick-up trucks, are deployed along the 82 residential routes, which are smaller streets. When the Snow Team deploys, residential routes are treated simultaneously with commercial routes. After the heavy plows finish their routes, we re-deploy them to support the light plows working on the residential routes.

The District has more than 400 pieces of equipment that can be deployed in a snow and ice event. We significantly increased our contracted services to ensure additional resources can be used in a large-scale snow or ice event.

The District has three basic mobilization plans for snow events that may range in severity from a dusting to a full-blown blizzard:

1. **Full Deployment** for snow coverage of one-half to six inches and deployment above six inches;
2. **Partial Deployment** for a dusting of snow; and
3. **Prowl Deployment** for bridges and overpasses.

The current status of our equipment readiness is as follows:

- 834 District Snow Team Personnel
- 211 Heavy Plows
- 179 Light Plow Pick Ups
- 23 Front-End Loaders
- 33 Bobcats and Skidsteers
- 3 Skidsteer Trailers
- 226 hard wired units and 300 portable (plug and play units)
- 19 Liquid Dispensing Trucks
- 10 New Liquid Dispensing Gators with plows and spreaders
- 31,309.3 tons of salt on hand with an additional 10,500 tons available immediately through purchase order
- 12,500 gallons of beet juice and 30,000 gallons of brine hot mix (gallons)

We also will use the Road Weather Information System (RWIS) for air and pavement temperatures as well as other weather data. Through the Regional Integrated Transportation Information System (RITIS), we have access to regional traffic monitoring, construction and real-time incident reporting that affects traffic.

Public safety is always our top priority, but snow removal also requires environmental considerations.

Environmental Considerations

When massive amounts of snow fall on the District, we must haul snow from streets and sidewalks to restore safe travel citywide. In partnership with the Deputy Mayor for Planning & Economic Development's office and the Department of Energy and Environment (DOEE) we are

identifying potential snow storage sites in each quadrant of the District to improve environmental controls.

The selected sites were evaluated by DOEE to ensure each site is a half-acre, has the capacity for storm water control measures, presents limited traffic and safety concerns, and lie within the combined sewer system.

Fortunately, we did not need to implement this part of the plan last winter; nevertheless, we are ready.

Part of being ready includes ensuring that our staff is fully trained.

Staffing and Training

As you all are aware, our success largely is dependent on our team's ability and knowledge to complete their job. Therefore, we expanded our training curriculum this year to ensure all agencies understand expectations and their assigned role within the updated Winter Maintenance Plan. Moreover, we have the cooperation of DDOT, DC Water, OSSE DOT, DGS, and the DowntownDC Business Improvement District to ensure greater success.

We have committed approximately 200 hours of scheduled classroom and practical training for plow drivers from these agencies in preparation for the upcoming snow season. Already, 495 drivers have been trained. The practical training course is at St. Elizabeths, where participants conduct pre-trip safety measures using light and heavy trucks and plow sand that is used to simulate snow. These activities are executed along a specially designed course, to emulate roadways, cul-de-sacs, intersections, curb cuts, and handicap ramps, as the drivers would encounter on the streets of DC.

Additionally, we are training administrative staff who perform duties in snow command, safety planning, quality assurance and quality control (QA/QC), salt-dome operations, logistics, finance, and general administration.

Facilitators include administrators and senior staff seasoned in snow operations, along with DPW staff and DOEE employees who review with them the environmental issues.

For the first time we are offering a new training session for SnowDash. This training further explores the intricacies of the system and how all key players involved in snow events can benefit and maximize its uses.

Once again, a meeting and series of training sessions for DC Snow Team leaders will be held at the Gallaudet University next week on October 26, 2017. This is in similar fashion to the successful session held last year.

The training curriculum culminates with the annual "Dry Run," which is also scheduled for next week on Friday, October 27th. All personnel involved in the District's snow response will participate in this final dress rehearsal in preparation for the winter season.

Along with being fully trained, it's essential that our team is fully connected and coordinated—something technology has helped facilitate.

Technology and Communication

The snow program is increasing its use of technology to streamline operations and improve efficiency. Here are the new uses being employed this snow season.

- **Enhanced Notification System** – In our personal lives, we use a variety of platforms to communicate with one another. In recognition of that fact, we introduced the Everbridge notification system to ensure we reach each Snow Team member by text, email, and phone. The system also has a reporting function that will assist with administrative functions.
- **Snow Dashboard** – In 2016 we deployed a SnowDash for the first time, allowing us to consolidate snow information from multiple sources. Automated real-time information includes, but is not limited to, employees checked-in for work, vehicles status, 311 snow service requests, salt spenddown, financial information, and parking tickets and tows. Frequently updated information includes plow activity information and route completion status. During the first year of this dashboard the focus was on ensuring accuracy of the information and reducing the time-tax on field staff to manually report data. In this second year the focus will be on using this data to adjust operations and resource deployment in real-time. As the dashboard updates, users can click on any of the information to see the details—down to the check-in/check-out time of each employee, for example—in order for personnel in all roles to have the best level of information for their personal snow duties. During intense storms, a report is automatically sent to the Office of the City Administrator at their requested time increments, saving valuable administrative time to attend to other snow duties.
- **More Efficient Routing** – An outcome of the District's population explosion is new streets being added to our maps. To ensure we are reaching our residents and to improve efficiency in operations and use of salt and fuel, we applied a routing technology to our routes.

In the next portion of my testimony I will be focusing on the quality controls we have put in place, along with updates on our overall operations.

Quality Controls and Operations

The Snow and Ice Removal Program is directly related to public health and safety. Therefore, we must operate at the highest of level of effectiveness. Here are our protocols to meet that requirement.

- **Quality Assurance and Quality Control** – We put quality assurance/quality control policies in place as a permanent foundation for how we provide support and supervision to our contractors. The DC Snow Team enhanced the quality assurance/quality control system to provide real time eyes on reports of current road conditions. Each QA/QC two-person team will report on the snow zone coverage and completion by all plows and the condition of the roadway. Most importantly, the QA/QC teams will provide real-time verification of the data populated by the automated vehicle locator, or AVL, map.

- **Citywide Anti-Icing** – Increased funding for the snow program in Mayor Bowser’s budget allowed us to acquire the trucks, other equipment, and supplies to greatly expand the anti-icing program to the entire District. In previous years, we were limited to treating major highways, ramps, bridges, and hilly and problematic streets with our brine and beet juice mixture. Anti-icing prohibits snow and ice from forming a bond to the street’s surface, which creates or causes dangerous, slippery conditions. Utilizing this strategy can reduce the cost to restore our streets to safe travel by as much as 20 to 50% on average and has reached savings of up to 75%. Anti-icing also reduces the amount of time it takes to restore roads to safe travel by as much as 50%. The pictures in our presentation show what a road treated prior to the snow storm looks like immediately after the snow storm, and demonstrates the enhanced effectiveness of the anti-icing application. Now, we are working towards treating every primary and secondary street in advance of a snow or ice event to reduce the opportunity for ice to bond with the street. I would like to note here that we do not pre-treat streets when it’s raining because the rain will dilute the mixture and render it useless.
- **Bike Lanes and Trails** -- We also are establishing a new unit, the Non-Motorized Trails Section, to elevate these paths’ priority in a deployment. These areas include bike paths, ADA ramps at intersections, bridge deck sidewalks, and bus shelters. We have acquired 10 pieces of equipment, known as Gators, that have anti-icing tanks, plows and spreaders attached, that will assist in treating these locations expeditiously. Since this is the first year for this part of the snow operation, we will evaluate its effectiveness to determine its future structure.
- **Consolidated Check-In/Check-Out** – This process will capture staffing readiness and reduce employee compensation concerns. In FY 2017, we tested this new process in the DPW deployment yards. The test was very positive, resulting in a 50% or more reduction in the time between when the plow driver checked in and when that driver left the yard to reach his or her route. We will introduce the process in the DDOT deployment yards this snow season.

As mentioned previously, coordination among the agencies included in DC’s snow team is incredibly important. Likewise, coordination outside the District is also important.

Importance of Regional Cooperation

We attend monthly meetings with regional partners, including the Metropolitan Area Transportation Coordination (MATOC) Program, which includes the Virginia Department of Transportation (VDOT), the Maryland State Highway Administration (SHA), and local surrounding counties. As we have seen in the past, the impact of snow and ice on one jurisdiction can have an effect on others; therefore, we strive to maintain close relationships with our counterparts across the region.

What We Need Residents and Businesses to Do

Within the District, residents, visitors, and business owners play a crucial role in our response to a snow event.

In accordance with DC law, we are asking property owners – residential and commercial – to clear their sidewalks within 24 hours after a storm ends. Walking is the primary means of

transportation for our children making their way to school and for many adults making their way to work.

When a snow storm is underway, we encourage residents to visit ***snow.dc.gov*** to see where the plows are working. Residents will also find safety tips for pedestrians, motorists, and cyclists. The site also explains what happens when a snow emergency is declared and lists the snow emergency routes where parking is prohibited.

Conclusion

Again, I thank you for the opportunity to provide the Committee with testimony on behalf of the DC Snow Team. I want to thank the DPW team as well as our partners in other District agencies for the work completed during the off-season to prepare the 2017 Winter Maintenance Operation for this year's winter season.

This concludes my testimony. I am happy to respond to questions.